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ABSTRACT

Education in Mexico has been controlled by the Federal government since the 1930s, and has focused on increasing vocational/technical education to meet the growing demands of the nation's economy. Finances and guidelines regarding curriculums and standards come from the Federal government. The official language of instruction is Spanish, although Indian dialects are used in specialized rural programs. Although enrollment in noncompulsory preschool is low, over 75% of all students are enrolled in compulsory primary school. This comprises a six-year program emphasizing mathematics, Spanish language arts, and natural and social sciences. However, dropout rates are high. Secondary education, another six-year cycle, is offered in general and vocational schools as well as in open programs using television and self-instructional media. Vocational/technical education is offered in vocational/technical schools, institutions of professional studies, and regional technical institutes. Various types of institutions exist for teacher education and higher education. Several nonformal education programs offer literacy training in rural areas and occupational training to elementary school dropouts. Recent developments in Mexican education include increased enrollment and finances, and availability of free textbooks. (AV)

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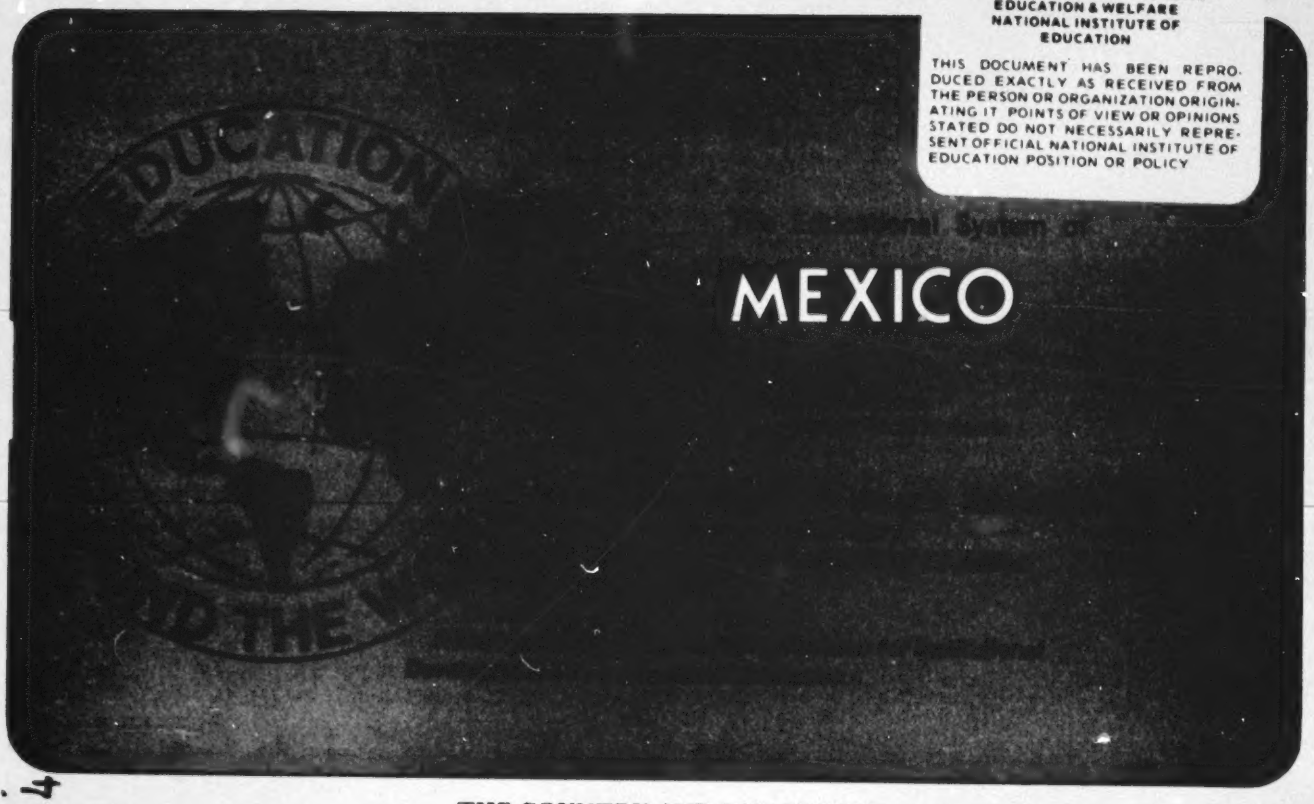

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THE COUNTRY AND THE PEOPLE

Official Name: United Mexican States.
Location: Immediately south of the United States.
Size: 764,000 square miles.
Main Subdivisions: 31 States and the Federal District.
Official Language: Spanish.
Population: 57.8 million (1974 estimate).
People: Predominantly Mestizo (Indian-Spanish), with smaller percentages of American Indian and Caucasian.
Literacy: 65 percent.
Religion: 97 percent Roman Catholic.
Government: Federal Republic.

THE BASIC SYSTEM

History

Throughout the colonial period, from 1521 to the early 19th century, education was largely in the hands of the church. After independence, a church-state conflict ensued in which reformers like Benito Juárez attempted to wrest control of education from the church. The 1857 Constitution and the subsequent reform laws provided for separation of church and state and established the principle that public education should be compulsory, free, and secular. These laws, however, were not enforced during the Porfirio Díaz regime (1876-1911). Although the Federal Government was responsible for education in the Federal District and the Territories and the State Governments were responsible for education within their borders, both levels of government allowed clerical domination of the schools to continue.

Although the Díaz regime brought political stability and industrial progress, educational conditions in the early 20th century were rather bleak. More than two-thirds of the population were illiterate; fewer than one-fourth of school-age children were enrolled; and education in the rural areas (where over two-thirds of the population lived) was almost completely neglected.

The Mexican Revolution, beginning in 1910, represents a significant dividing line in the history of Mexican education, as it does in Mexico's overall development. The 1917 Constitution accorded the Federal Government greater powers in regulating communication, labor, land, natural resources, and other aspects of the economy. In 1921 a Federal Secretariat of Public Education was established, with the schools becoming an arm of the Federal Government in carrying out the social and economic goals of the Revolution.

In the consolidation of the Revolution after the 1930's, a policy of creating national unity and increasing industrialization emerged. This change was reflected in the schools: the Federal Government has become the dominant force in Mexican education, and the school system has provided increased vocational/technical education to meet the increasing and diverse demands of the industrializing economy.

As Mexico's economy has moved from the production of primary materials (mainly agricultural and mining) to a more diversified economy, including manufacturing and production for export, its economic growth has been substantial, as shown by a 6 percent average annual increase in the gross domestic product from 1950 to 1970. The network of roads, railroads, and communication facilities that has accompanied this change has also promoted the other policy goal of greater national unity.

The educational benefits of Mexico's economic surge, however, have been diluted by its population growth rate of 3.5 percent, which has limited the increase in per capita income. At the same time, with more than half its population under 20 years of age, the cost of providing schools for burgeoning enrollments has been mounting at a steady pace. Under these circumstances, providing the educational programs required by an industrializing Nation is a constant challenge.

Legal Basis

Article 3 of the 1917 Constitution is the most important of all the articles relating to education. It provides that—

1. All State instruction shall be free and secular.
2. Religious corporations, ministers of religion, corporations that exclusively or predominantly engage in educational activities, and associations or companies devoted to propogating any religious creed shall not in any way participate in institutions providing elementary, secondary, or teacher education, or education for laborers and fieldworkers.
3. Private schools for any of the categories listed previously may only be established subject to official supervision.

Article 31 provides that children aged 6 through 14 must attend a public or private school until they have obtained their primary education, and article

123 provides that agricultural, industrial, and mining enterprises maintain schools for their workers' children. Article 73 authorizes the Federal Government to establish schools of all types throughout the Nation and to legislate concerning the respective contributions of the Federal Government, the States, and the municipalities to the educational enterprise.

A new Federal Education Law became effective on December 14, 1973. Debate in the Chamber of Deputies and in the media focused on three areas of controversy—the position of private (Catholic) schools, the state monopoly of the educational system, and inclusion of the universities under the law. Article 9 of the new law, like article 3 of the Constitution, forbids religious organizations from participating in institutions providing elementary, secondary, or teacher education, or education for laborers or fieldworkers. Article 35 of the new law specifies that private schools for these categories must be licensed by the state and must use state-approved materials in their curriculums. Article 36 authorizes the state to revoke, without judicial recourse, the licenses of private institutions considered to be in violation of article 35 of the law or article 3 of the Constitution.

If fully enforced, these articles would close many Catholic and other sectarian schools. Although full enforcement does not appear to be expected, the existence of these articles constitutes a continuing concern to religious and other private schools.

Traditionally, public universities in Mexico have operated under their own State or Federal organic laws, which give them considerable legal autonomy. It remains to be seen to what extent, if any, this new law will disturb this traditional autonomy.

Structure

As indicated in the accompanying chart, the formal educational structure comprises three distinct levels: elementary (preschool and primary), secondary (basic and upper), and higher.

Two years of preschool education are offered in kindergartens to children aged 4 to 6. Completion of 6 years of primary education are required between the ages of 6 and 14. The 3-year, basic secondary cycle may lead to the general upper secondary cycle, normal (teacher-training) school, or specific training in some vocational/technical area. The general program and the normal school program (as revised in 1975) lead to the *bachillerato* diploma and higher education; and the vocational/technical program sometimes leads to the *bachillerato* and certain higher education programs. Higher education offers preparation for a specialty, research, and teaching.

The Federal Government also provides nonformal education to take care of the needs of special groups.

Administration

The principal cabinet department in charge of Federal activity in education is the Secretariat of Public Education. Other departments, such as the Secretariat of Agriculture and Stockraising and the Secretariat of National Defense, administer specialized schools. Higher education institutions, like the National University of Mexico, administer their own university preparatory schools.

The Secretariat of Public Education administers a vast network of Federal schools of all types and levels; it also exercises supervisory control over elementary, secondary, and normal schools supported by the States or private sources and any other type of educational activity intended for farmers or workers as specified in article 3 of the Constitution. The current structure of the Secretariat divides administrative responsibilities among subsecretariats for elementary and teacher education; middle, technical, and higher education; popular culture and nonformal *(extraescolar)* education; and planning and coordination. A field staff, including a Director of Federal Education in every State capital and numerous zone inspectors, insures the pervasiveness of Federal control.

Since Mexico's educational system is essentially federal, States and municipalities maintaining and controlling schools within their jurisdictions are required to follow Federal guidelines regarding curriculums and standards.

Financing

The Federal Government provides most of the funds for education. From 1970 to 1974, the Federal budget for education increased from 7,946,889,000 to 19,113,240,000 pesos.[1] While this increase is substantial, the actual percentage of the total Federal budget allocated to education declined from 28.24 in 1970 to 16.74 in 1974. States vary widely in their allocation of funds to education. In 1973, for example, the State of Nuevo León allocated 68.6 percent of its total budget to education while the State of Oaxaca allocated less than 15 percent. A comparison of the total education

[1]During these years, 1 peso equalled approximately 8 cents. At the beginning of September 1976, the Mexican Government floated the peso, whereupon its value dropped to about 5 cents.

expenditures of the Federal Government with those of the States in 1973 shows that the former spent more than four times as much as the latter.

Generally, specific educational taxes are not levied by either the Federal or State governments. However, to support the urgently needed expansion of secondary and higher education, a special tax has been imposed by the Federal Government on salaries above a prescribed figure.

More than 40 percent of the total Federal educational budget goes for the support of elementary schools, although in recent years the percentage increases for upper secondary and higher education have advanced, reflecting an increasing demand at these levels. The distribution of the Federal educational budget among various levels in 1971 and 1975 was as follows:[2]

(in millions of pesos[1])

	1971[2]		*1975*[3]	
	Number	**Percent**	**Number**	**Percent**
Total	*9,445.0*	*100.0*	*29,043.9*	*100.0*
Preschool	196.8	2.0	560.5	1.9
Primary	4,420.5	46.8	11,880.4	40.9
Secondary, basic cycle	1,947.2	20.6	5,219.6	18.0
Secondary, upper cycle	1,010.3	10.7	4,042.9	13.9
Higher education	1,147.4	12.1	4,504.5	15.5
Other	722.8	7.8	2,836.0	9.8

[1]In both years, 1 peso equalled about 8 cents.

[2]Final budget.

[3]Original budget proposal. Final figures not yet available to author.

Private support of education at all levels is relatively small compared with public support. Moreover, it is not a common practice for the Government to subsidize private education, since traditionally private education was mainly under the auspices of the church, which was often in conflict with the Government.

Academic Calendar

Before 1965, two school calendars operated on a regional basis depending on the climate of the particular region. Because this system was the source of considerable administrative confusion, the two calendars were consolidated in a 10-month school year, beginning in September and ending in July, with vacations in December and April.

Language of Instruction

The official language of instruction is Spanish. In specialized programs for monolingual Indian children and adults, such as that administered by *El Servicio Nacional de Promotores Culturales y Maestros Bilingües* (National Service of Cultural Promoters and Bilingual Teachers), the primary program is taught in the native tongue, while Spanish is taught as a second language. In 1974, a total of 185,022 school-age children and 953,438 adults received instruction of this type.

Grading System

The grading system in most institutions is based on a scale of 1 to 10 (the highest grade) with some variations in the significance of the numbers. In some institutions, a grade of 6 is a minimum passing grade, while in others it is 7. Some institutions use a numerical system based on 100, with 70 as a minimum passing grade. Others use letters that translate in some institutions as follows:

MB—*muy bien* (very good) 9-10
B—*bien* (good) ..... 7.5-9 or 8-9
S—*suficiente* (passing) 6-7.5
NA—*no acreditada* (not passing) .... Below 6

Other institutions translate MB as 10; B as 8; and S as 6. Some private secondary and higher institutions use the letter grades A, B, and C with meanings similar to those in the United States.

ELEMENTARY EDUCATION

Preschool Education

Less than 4 percent of the total school population in 1974-75 were enrolled in the kindergarten. (See table 1.) Compared with the primary cycle, which is required, the kindergarten, for ages 4 to 6, has shown a relatively slow growth. Government policy is to give preference to rural and marginal urban areas in establishing new kindergartens.

Most kindergartens are urban and federally supported. By type of institution, the 1973-74 kindergarten enrollment of 462,719 children was distributed as follows: Federal—261,281; State—167,079; and private—34,359.[3]

The objective of kindergarten is to develop the habits, skills, and aptitudes necessary for children to continue their elementary studies. An effort is made to orient the children to their world and to encourage autonomous thinking in them according to their individual levels of maturity, thereby encouraging the development of personality and a sense of nationality.

[2]Secretaría de Educación Pública. *Política Educativa Acciones más Relevantes 1970-75*. The Secretaría, 1975, p. 53.

[3]Secretaría de Educación Pública. *4 Años de Labor Educativa 1970-74*. The Secretaría. 1974, pp. 13-17.

Another aspect of preschool education, but not part of the formal educational structure, is represented by the *guarderías* (nursery schools) for children under kindergarten age. Many government departments maintain *guarderías* for the children of their employees. The Secretariat of Public Education attempts to coordinate the activities of these *guarderías*, which offer educational, health, and welfare services to infants and mothers. As more mothers enter the working force, the need for this type of institution becomes more acute.

Primary Education

The Constitutional mandate requiring completion of primary education is typically fulfilled by children between the ages of 6 and 14 in a 6-year program. Children over 10 may fulfill the requirement by taking an intensive 3-year course of study in centers of fundamental education.

The revised primary curriculum went into effect for children entering grade 1 in the fall of 1969. The programs are organized around four basic areas—mathematics, Spanish language arts, natural sciences, and social sciences. These programs have been designed by master teachers, professors, and researchers in higher education institutions in collaboration with the authors of the textbooks used. These textbooks are complemented by teachers' editions, which provide teaching suggestions, supplementary information, and suggestions for evaluation. In the programs as well as the textbooks, the stated emphasis is on the process of learning rather than on the communication of inert knowledge. The Federal Government provides free textbooks to each pupil, thus promoting a high degree of uniformity and insuring at least a minimum of educational materials in the hands of both teachers and pupils.

As shown in table 1, over 75 percent of all students in Mexico in 1974-75 were at the primary level. A breakdown of primary enrollments in 1973-74 indicated that 66 percent were in Federal schools, 27 percent in State schools, and 7 percent in private schools.[4] Elementary teachers in 1974-75 were distributed among schools as follows: Federal—167,500; State—67,748; and private—22,600.[5]

Under an Eleven-Year Plan extending from 1959 to 1970, Mexico made a prodigious effort to provide primary schools for all students of compulsory school age. Although the Plan led to significant advances in overcoming deficits in facilities, it fell short of its goal of providing schools for all. The deficits remained greater in the rural areas. An official report of June 1975 states that primary schooling was available for only 62 percent of the students of compulsory school age in the rural areas as opposed to 83 percent in the urban areas, and that only about 38 percent of the rural schools had all six grades.[6]

The high percentage of pupils who fail to complete their primary studies is a continuing

[4]Ibid., p. 27.

[5]Secretaría de Educación Pública. *Política Educativa Acciones más Relevantes 1970-75*. loc. cit., p. 45.

[6]Secretaría de Educación Pública. *Sistema de Acreditación para Educación Primaria*. The Secretaría, 1975, p. 17.

Table 1.—Number of students, by level or type, and percentage each comprises of the total enrollment: 1970-71 and 1974-75

Level/type	1970-71		1974-75	
	Thousands of pupils	Percent of total enrollment	Thousands of pupils	Percent of total enrollment
Total	*11,507.8*	*100.00*	*14,935.3*	*100.00*
Kindergarten	422.7	3.67	499.0	3.34
Primary	9,248.3	80.36	11,435.8	76.57
Secondary (Basic)	1,219.8	10.59	1,896.0	12.70
Secondary (Upper)	308.1	2.70	589.2	3.95
Normal	53.0	0.46	81.2	0.53
Higher	255.9	2.22	434.1	2.91

Source: Adapted from Secretaría de Educación Pública. *Política Educativa Acciones más Relevantes 1970-75*. The Secretaría, 1975. p. 47.

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concern. In 1970, those who completed the primary level represented only about 31 percent of the number who had started 6 years earlier, with the completion rate in the urban areas being about 7 times greater than in the rural areas.[7]

Dr. Pablo Latapí, Director General of the Center of Educational Studies in 1973, stated that in the period encompassed by the Eleven-Year Plan, Mexico had succeeded in advancing the average grade completion level from 2.2 to 2.8 years, but, because of population increases and a high dropout rate in the early grades, the number of functional illiterates (persons age 9 or older who had not completed 4 grades) had increased by approximately 3 million.[8]

The census of 1970 showed that about 42 percent of the population aged 15 or older had not completed primary education.[9] To educate this large group, the 1973 Federal Education Law created a federal system by which adults and adolescents could obtain their certificates of elementary school completion. The procedure involves examinations in which norms have been determined by tests administered to students who have completed the sixth grade. The principle is similar to that of the General Educational Development tests in the United States, which have long been used to determine high school equivalency.

SECONDARY EDUCATION

Secondary education *(educación media)* consists of a 3-year basic cycle and a 3-year upper cycle. The dual purpose of both cycles is to prepare students for continuing education and for work.

The success of the Eleven-Year Plan (1959-70) in providing more primary school facilities has led to an increased number of graduates eligible for secondary education. Moreover, a larger proportion of these graduates is enrolling in secondary schools. In 1970, 72 of each 100 primary graduates entered secondary school; in 1975, 82 out of 100 entered.

The expansion of enrollment over the last 5 years in both secondary cycles is shown in table 1. The following is a breakdown of the enrollment in 1974, according to the source of the schools' support:[10]

	Basic	Upper
Federal	901,156	119,886
State	246,943	266,300
Private	561,157	129,021

Basic Cycle

Both general education schools and a variety of vocational schools offer basic secondary education. This cycle is offered in night schools for adults, experimental schools, and television schools as well as in schools of the conventional type. All the programs have a common nucleus, building on the primary-level areas of study. The specialty of each school depends on the social and economic characteristics of the region.

The basic cycle in general education schools has been undergoing considerable reform. Measures have been taken to reorganize the curriculum so that it will articulate better with the revised program of the primary level, which in June 1975 produced the first group of students using the new programs throughout the full 6 years. In 1972, various plans were tried in 40 experimental schools, of which 10 were general and 30 vocational-technological (of different types.) Regional seminars with wide participation by secondary teachers deliberated over the new plans of study used in these schools, and questionnaires were sent to more than 20,000 teachers. The results from the experimental schools and the questionnaires constituted the basis for the new basic secondary programs that went into effect in September 1975.

The reforms will not make any changes in the dual purpose of the basic cycle, but are aimed at making 9 years of common schooling rather than 6 the minimum expectation—and eventually obligatory for all pupils. They further contemplate (1) extension of basic secondary schools to new geographical areas, (2) better technical coordination at this cycle between Federal, State, and private institutions, and (3) establishment on an experimental basis of schools that offer a full 9 years of general education.

The plan of studies of the basic secondary cycle calls for 30 class hours per week, as seen in table 2. An official bulletin delineates for each area and subject the general objectives to be achieved in each of the three grades, and divides each year's work into 8 units. For each unit, the bulletin indicates specific objectives, suggests teaching activities, and includes a bibliographical section. Each school determines how it will organize the 5 hours devoted

[7]Ibid., p. 17.

[8]*Mitos y Verdades de la Educación Mexicana 1971-72.* Centro de Estudios Educativos, A.C. México, D.F. 1973, p. 40.

[9]Secretaría de Educación Pública. *Sistema de Acreditación para Educación Primaria.* loc. cit., p. 13.

[10]Secretaría de Educación Pública. *4 Años de Labor Educativa 1970-74.* loc. cit., pp. 36 and 48.

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each week to physical, artistic, and technological education.

As an alternative to the formal program, open secondary education *(secundaria abierta)* is a system of self-instruction from textbooks for persons older than 16 who have finished the primary cycle. The subjects studied presently are mathematics, natural sciences, social sciences, and Spanish. The addition of a foreign language is contemplated for the 2d and 3d years.

A variation in open secondary education is *telesecundaria* (television secondary), which in 1974 offered instruction to more than 36,000 students, half of whom were from rural areas. Approximately 9,400 students completed the basic secondary cycle through television in that year. Subjects offered were the four in the textbook-based, self-instruction program mentioned previously.

The open system offers the opportunity for a basic secondary education to a large segment of the population who for various reasons have not been able to continue their studies. Study circles are formed in work centers, unions, clubs, cities, or *ejidos* (communal farms). These circles are not led by teachers, but trained persons are available to help students with the textbook study. Successful completion of this program as evidenced by examinations entitles the student to a certificate of completion equal in validity to that given upon completion of a formal program.

Table 2—Reform curriculum of the basic secondary cycle: 1974

Subject	Hours per week		
	1st yr.	2d yr.	3d yr.
Total	*30*	*30*	*30*
Spanish	4	4	4
Mathematics	4	4	4
Foreign language	3	3	3
Natural sciences:			
Biology	3	3	3
Physics	2	2	2
Chemistry	2	2	2
Social sciences:			
History	3	3	3
Geography	2	2	2
Civics	2	2	2
Physical, artistic, and technological education	5	5	5

Source: Adapted from Secretaría de Educación Pública. *Educación Media Básica*. The Secretaría, 1974, p. 41.

Although general education is predominant at the basic secondary level, increasing emphasis is being given to vocational/technical education at this level. The 3-year schools of this type are discussed later under Vocational/Technical Education.

Upper Cycle

Education at the upper secondary level includes general, vocational/technical, and teacher education. The latter two will be discussed under Vocational/Technical Education and Teacher Education, respectively.

The general program is divided into three types of activities—academic, work-training, and parascholastic. The last, which may be civic, artistic, or sport, is elected by the student, whose performance is not evaluated. The duration of the program is 3 years.

The two types of institutions that offer primarily general education in this cycle are (1) the traditional university preparatory schools, which include the *Preparatorias* (preparatory schools) and the *Colegios de Ciencias y Humanidades* (Schools of Sciences and Humanities) and (2) the *Colegios de Bachilleres* (comprehensive schools for upper secondary studies). Students completing the university preparatory program at any of these institutions receive the *bachillerato* diploma, which is the basic requirement for admission to higher education institutions.

Recommendations made in the 13th General Assembly of the National Association of Universities and Higher Education Institutions *(Asociación Nacional de Universidades e Institutos de Enseñanza Superior*—ANUIES) in 1971 have had the effect of promoting standardization in the programs of these upper secondary institutions so that they fulfill the dual purpose of providing vocational as well as preparatory education. Since the latter has been the traditional emphasis, these recommendations represent a significant change. ANUIES recommendations have also led to the wide adoption of (1) organization of the school year into semesters, (2) use of credit hours in curriculum planning, and (3) teaching of both vocational and academic courses.

University preparatory schools.—The traditional and most widely attended institution offering the upper secondary cycle is the preparatory school attached to a university. The

largest of these by far is the *Escuela Nacional Preparatoria* (National Preparatory School) attached to the National University of Mexico. Operating on nine campuses scattered over the capital, it prepares students to enter the specialty of their choice at the university level.

The *Colegio de Ciencias y Humanidades* (School of Sciences and Humanities) is also attached to the National University, and stands as an example of its kind of preparatory school. It has five campuses in the capital, and offers both university preparatory and terminal curriculums in business, administration, arts, and other specialties.

Similar types of preparatory schools are attached to universities, public and private, throughout the country. In keeping with current policy, they will be expected to broaden their function to include not only traditional preparatory studies but also vocational/technical work.

Colegios de Bachilleres.—A new type of 3-year, autonomous institution, the *Colegio de Bachilleres* is expected to be the prototype for the reform of existing institutions. In its curriculum, the preparation for work assumes comparable importance with the preparation for further education.

The establishment of this institution represents an important step in providing more flexibility and independence in the upper secondary cycle, which had usually been thought of as strictly preparatory for higher education and thereby circumscribed in its program by its affiliated institution.

The Secretariat of Public Education has the authority to approve the academic plans of the *Colegios de Bachilleres*. The presidential decree establishing these schools stipulated that courses should be organized on a semester basis and include academic work, vocational training, and complementary activities of an artistic or recreational nature. Courses are organized into units of work that specify objectives, teaching activities, evaluation procedures, and special bibliographies. Teachers are furnished with teaching manuals. Depending upon the courses taken, many graduates either receive the *bachillerato* (usually after some additional work) or qualify for a title of *técnico profesional*, the former to admit them to a university, the latter to lead directly to employment.

The *Colegio de Bachilleres* was first authorized in 1973 to help meet the growing demand for upper secondary education. Plans and programs for this institution grew out of recommendations made by the rectors of higher education institutions meeting in the 13th General Assembly of the ANUIES in 1971. In 1974, five schools (attended by 13,000 students) were operating in the Federal District and three in the city of Chihuahua. Three new schools were authorized in the Federal District by 1975, and it is expected that in cooperation with the States additional *Colegios de Bachilleres* will be established when necessary to relieve some of the pressure on university preparatory schools like those of the National University, which have grown to mammoth size.

VOCATIONAL/TECHNICAL EDUCATION

It is difficult to present in summary form a comprehensive picture of vocational/technical education because of the varieties in types and levels, ranging from postprimary to the university graduate levels. Vocational/technical institutions include three main categories: (1) vocational/technical schools, (2) institutions of professional studies, and (3) regional technological institutes.

A principal objective of this part of the educational system is to combine vocational/technical and general studies so that a student who does not choose to remain in school has a vocational outlet at various levels after completing elementary school. Other objectives are to expand training facilities for middle-level professions in order to supply the manpower needs of the expanding economy, to disperse facilities to satisfy regional needs, and to provide specialists for new areas like fishing (to better exploit Mexico's several thousand miles of coastline) and for old ones like agriculture, which lags far behind the industrial sector.

The increasing demands of Mexico's industrializing economy have led to a steady growth in vocational/technical institutions, as can be seen from the increase of selected types from 1970-71 to 1974-75:[11]

	1970-71	*1974-75*
Total	*220*	*836*
Centers for Agricultural and Technological Studies	--	44
Centers for Scientific and Technological Studies	33	96
Regional Technological Institutes	19	52
Technological Agricultural Institutes	--	4
Technological Agricultural Schools	70	466
Technological Fishing Schools	--	30
Technological Industrial Schools	98	164

[11]Secretaría de Educación Pública. *Política Educativa Acciones más Relevantes 1970-75*. loc. cit., p. 49.

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The effect of the 1971 ANUIES recommendation—that upper secondary institutions provide both vocational and university preparatory education—may be seen in the field of vocational/technical as well as general education. The National Polytechnical Institute *(Instituto Politécnico Nacional)*, the second largest higher education institution in the country, transformed its 2-year, upper secondary vocational schools into Centers of Scientific and Technological Studies *(Centros de Estudios Científicos y Tecnológicas)* that offer a 3-year cycle to prepare students for study of a technical specialization at the university level as well as for an occupation.

Completion of various types of vocational/technical education is evidenced by certificates, diplomas, and titles depending on the level. Completion of a program at the basic secondary level leads to a certificate and eligibility for programs at the upper secondary level. These may lead to the *bachillerato* and eligibility for entrance into higher institutions offering corresponding technical programs, or they may lead to the title of *técnico* (technician) in some specialty and directly to work experience. Completion of an undergraduate course leads to the *licenciatura* (licentiate) in a particular specialty like *ingeniería civil* (civil engineering).

A continuing concern is better articulation of the vocational/technical structure with the academic so that a student can switch from one to the other without undue penalty.

Vocational/Technical Schools

The three main categories of vocational/technical schools are industrial, agricultural, and fishing. Most schools are on the secondary level, but there are others at levels both above and below. Recently, these schools have been organized so that students may move either vertically, to a more advanced level of schooling, or laterally, to a trade or an occupation. Table 3 lists types of vocational/technical schools by major category, indicating level, type, and duration of the programs.

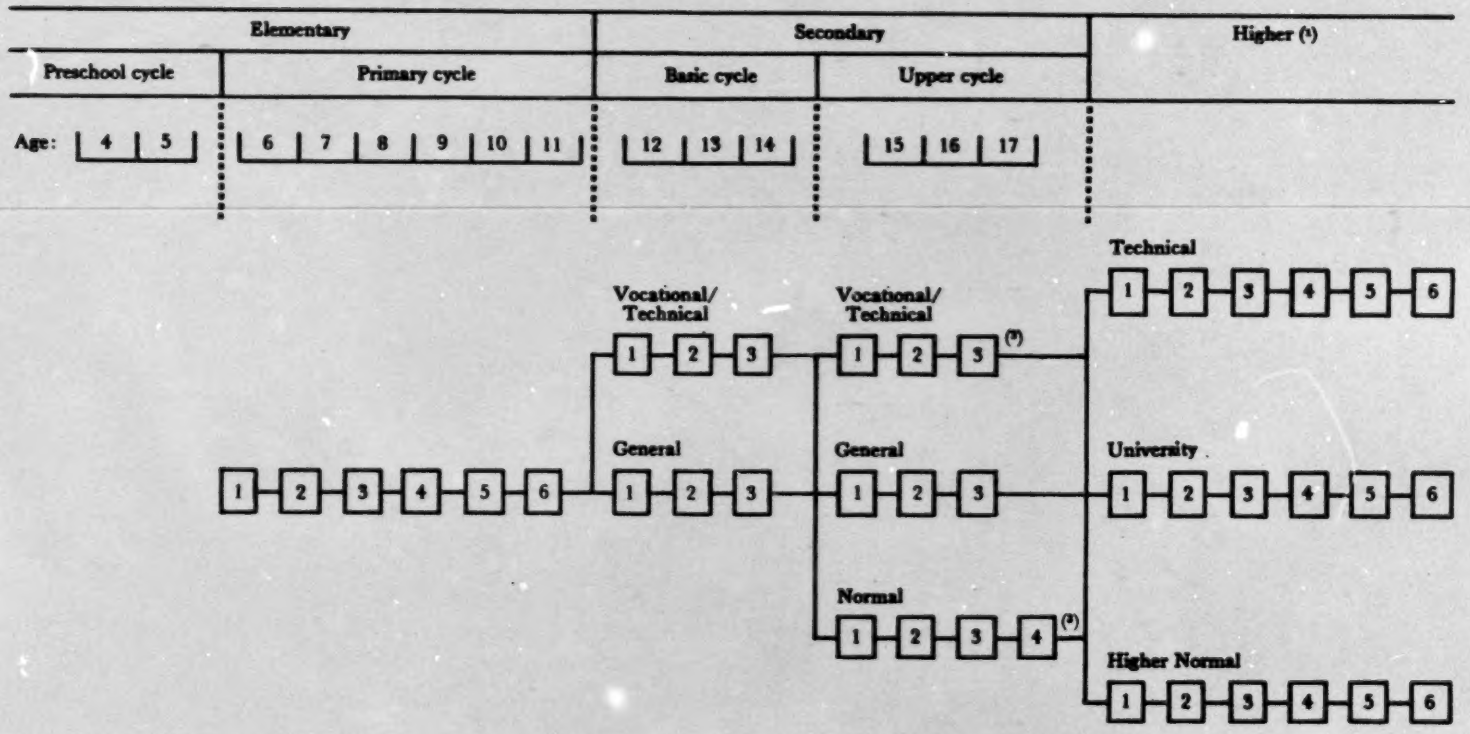
Institutions of Professional Studies

Another category of vocational/technical institution—which somewhat overlaps the three main types of vocational/technical schools and includes some teacher-training schools as well—consists of *instituciones de estudios profesionales* (institutions of professional studies). Requiring completion of the basic secondary cycle for admission, these schools offer a wide variety of vocational choices ranging in length from 8 months to several years, depending on the specialization. After completing the program, a student receives a diploma, a certificate, or a title, depending upon the particular school. In Mexico City, a student may receive his professional training either in institutions that prepare him only for employment (Group A) or in those that also prepare him for higher education (Group B).

Table 3.—Types of vocational/technical schools, by category, with level, type, and duration of program: 1972-73

Type of school	Program		
	Level	Type	Duration
INDUSTRIAL			
Center of Training for Industrial Work ..... *(Centro de Capacitación para el Trabajo Industrial)*	Postprimary	Work training	10 months
Technological Industrial School ..... *(Escuela Tecnológica Industrial)*	Postprimary	Work training	10 months
	Basic secondary	Technical	3 years
	Upper secondary	Technical	3 years

The Basic Educational Structure in Mexico: 1976



[1] Length of study varies.
[2] Admission to corresponding programs for holders of the *bachillerato*.
[3] Admission for holders of the *bachillerato*, which will be received by normal school graduates in accordance with the reform of the study program initiated in 1975.
Source: Adapted from Secretaría de Educación Pública. *3 Años de Estadística Básica del Sistema Educativo Nacional 1970–71 a 1972–73*. The Secretaría, 1973. Pp. 10–11.

Type of school	Program		
	Level	Type	Duration
Center for Technological Studies ..... *(Centro de Estudios Tecnológicos)*	Postprimary	Work training	10 months
	Basic secondary	Technical	3 years
	Upper secondary	*Bachillerato*	3 years
	Upper secondary	Technical	2-4 years
National Center for Industrial Technical Education ..... *(Centro Nacional de Enseñanza Técnica Industrial)*	Higher	Teaching of industrial arts	6 semesters
	Higher	Industrial engineer	5 years
Center for Scientific and Technological Studies ..... *(Centro de Estudios Científicos y Tecnológicos)*	Postprimary	Work training	10 months
	Basic secondary	Technical	3 years
	Upper secondary	*Bachillerato*	3 years
	Upper secondary	Technical	2-4 years
National Normal School for Industrial Arts Teachers ..... *(Escuela Nacional de Maestros para la Capacitación del Trabajo Industrial)*	Upper secondary	Teacher training	3-4 years
AGRICULTURAL			
Center of Training for Agricultural Work .... *(Centro de Capacitación para el Trabajo Agropecuario)*	Postprimary	Agricultural work training	10 months
Technological Agricultural School ..... *(Escuela Tecnológica Agropecuaria)*	Basic secondary	Technical	3 years
Center for Technological Forestry Studies .... *(Centro de Estudios Tecnológicos Forestales)*	Upper secondary	Technical	3 years
Center for Technological Agricultural Studies ..... *(Centro de Estudios Tecnológicos Agropecuarios)*	Upper secondary	*Bachillerato*	3 years
National Normal School for Training Agricultural Teachers ..... *(Escuela Nacional de Maestros de Capacitación para el Trabajo Agropecuario)*	Upper secondary	Teacher training	9 semesters
Technological Agricultural Institute ..... *(Instituto Tecnológico Agropecuario)*	Higher	Agronomical	4 semesters
FISHING			
Technological Fishing School ..... *(Escuela Tecnológica Pesquera)*	Basic secondary	Technical	3 years

Source: Adapted from Secretaría de Educación Pública. *3 Años de Estadística Básica del Sistema Educativo Nacional 1970-71 a 1972-73.* The Secretaría, 1973, pp. 17-18.

Group A

Centro Nacional de Adiestramiento de Aviación Civil (National Center for Civil Aviation Specialists)
Escuela Nacional de Biblioteconomía y Archivonomía (National School for Librarians and Archivists)
Escuela Nacional de Música (National School of Music)
Escuela Nacional de Pintura y Escultura (National School of Painting and Sculpture)
Escuela de Nutrición (School of Nutrition)
Escuela de Salud Pública (School of Public Health)
Escuela de Técnicos en Radiología (School for Technicians in Radiology)
Escuela de Trabajo Social (School of Social Work)

Group B

Academia de la Danza (Dance Academy)
Conservatorio Nacional de Música (National Conservatory of Music)
Escuela de Capacitación en Comunicaciones Eléctricas (School of Training in Electrical Communications)
Escuela de Diseño y Artesanías (School of Design and Crafts)
Escuelas de Enfermería (Schools of Nursing)
Escuelas Nacionales de Maestros de Capicitación para el Trabajo Industrial (National Schools for Industrial Arts Teachers)
Escuelas Nacionales de Maestros de Educación Preescolar) (National Schools for Preschool Teachers)
Escuelas Nacionales de Maestros de Educación Primaria (National Schools for Primary Teachers)
Heroico Colegio Militar (Heroic Military School)
Instituto Técnico de la Procuraduría (Technical Institute of Attorney Assistants)

Regional Technological Institutes

To satisfy regional manpower needs, regional technological institutes offer technical education at the upper secondary and higher education levels. In 1974-1975, 32 of these institutes were in operation serving 39,000 students, and 8 new institutes were authorized for 1975. The increase from 19 in operation in 1970 indicates the concern of the present administration to help equalize educational opportunity and make the resulting benefits more widely available. At these institutes, a variety of technical specialties can be pursued at different levels, with a maximum duration of 12 semesters (6 years) for any course of study.

TEACHER EDUCATION

Elementary and Physical Education Teachers

Preschool and primary teachers are prepared in *escuelas normales* (normal schools) in a 4-year upper secondary program. (See table 4.) Upon graduation they receive the title *educadora* (preschool teacher) or *profesor de educación primaria* (primary school teacher) and the certificate of completion of the upper secondary cycle. In 1974, 8,863 students were enrolled in 52 normal schools for preschool teachers, 63,287 in 196 normal schools for primary teachers, and 2,534 in 5 normal schools for physical education.[12]

Basic Secondary, Normal, and Special Education Teachers

Teachers for the basic secondary cycle and the normal schools are prepared in the *escuelas normales superiores* (higher normal schools) in a 4-year higher education program from which they graduate as licentiates *(licenciados)*. Some higher normal schools also offer graduate programs. In 1973-74, a total of 24,456 were enrolled in 18 higher normal schools.[13]

Teachers of special education are trained in two higher education institutions, the *escuelas normales de especialización* (normal schools for special education). One is a Federal institution in the Federal District and the other is a State institution in Monterrey. In 1974, they enrolled 402 and 184 students, respectively.

Vocational/Technical Teachers

Industrial arts teachers receive their training in the upper secondary *Escuela Nacional de Maestros para la Capacitación del Trabajo Industrial* (National Normal School for Industrial Arts Teachers). Upon completion of the program, students receive the title of industrial arts teacher in one of 5 different specialties. A similar kind of normal school, *Escuela Nacional de Maestros de Capacitación para el Trabajo Agropecuario* (National School for Training for Agricultural Teachers), prepares agricultural teachers for various technical agricultural schools at the basic secondary cycle.

Upper Secondary and Higher Education Teachers

In the past no specialized programs existed for preparing teachers of the upper secondary or higher education level. The tradition in Mexican higher institutions, as elsewhere in Latin America, is to hire part-time professors, who teach as an adjunct to a professional career. Most hold only the first university degree. Beginning in 1972, however, the National Association of Universities and Higher Education Institutions (ANUIES) coordinated an ambitious program of upgrading teacher

[12]Secretaría de Educación Pública. *Informe de Labores 1 de Septiembre de 1973 a 31 de Agosto de 1974*. The Secretaría, 1974, p. 39.

[13]Ibid., pp. 185-89.

qualifications at these two levels. Almost 8,000 teachers annually attended graduate courses in higher education institutions at home or abroad. By 1974 about 50 percent of the teachers had participated in seminars or courses designed to update their technical knowledge and pedagogical skills. Other efforts aimed at improving the quality of instruction include:

1. Design of a model laboratory for teaching upper secondary physics.
2. Preparation of teaching materials for courses in engineering, health, physics, chemistry, and mathematics.
3. Publication of the magazine *Revista de la Educación Superior* (Review of Higher Education).

Study Programs

Normal schools.—The number of students enrolled in the various upper secondary normal schools expanded rapidly between the years 1970 and 1974. The percentage increase during that period by selected level or type of education for which teachers were prepared was as follows:[14]

	Percent increase
Preschool	102.8
Primary	61.9
Physical education	66.1
Vocational/technical education	59.3

[14]Secretaría de Educación Pública. *Boletín para Asesores Pedagógicos.* October 1975, p. 1.

Table 4.—Reform curriculum for normal schools: 1975
[--indicates zero hours per week]

	Hours per week							
Semesters:	**1st**	**2d**	**3d**	**4th**	**5th**	**6th**	**7th**	**8th**
Total	*30*	*30*	*30*	*30*	*30*	*30*	*30*	*30*
Mathematics and its teaching	4	4	4	4	4	4	4	4
Spanish and its teaching	4	4	4	4	4	4	4	4
Natural sciences and their teaching	4	4	4	4	4	4	4	4
Social sciences and their teaching	4	4	4	4	4	4	4	4
Art education and its teaching	2	2	2	2	2	2	2	2
Physical education and its teaching	2	2	2	2	2	2	2	2
Technical education and its teaching	2	2	2	2	2	2	2	2
Psychology	4	4	4	4	--	--	--	--
Educational technology	--	--	--	--	4	4	--	--
Educational administration and legislation	--	--	--	--	--	--	4	4
Philosophy	4	--	--	--	--	--	--	--
Educational philosophy	--	4	--	--	--	--	--	--
History of education	--	--	4	4	4	4	--	--
Socioeconomic problems of Mexico	--	--	--	--	--	--	4	--
Community development	--	--	--	--	--	--	--	4

Source: Adapted from information provided by the Secretariat of Public Education in 1975.

To increase the quality of normal school education, a reform was initiated in 1975, with the following objectives:[15]

1. Adaptation of teacher training to the elementary and secondary level reforms.
2. Reduction of the number of courses to allow for more intensive work in each.
3. Establishment of a maximum of 30 hours per week for both curricular and extracurricular activities.
4. Design of programs by cooperation of officials, teachers, and students.
5. Both theoretical and practical training in all schools.
6. Because of the stronger program instituted by the reform, establishment of the *bachillerato* as the diploma receive by normal school graduates (in addition to a teaching title), thus making them eligible to apply to higher education institutions.

The new curriculum for upper secondary normal school programs is shown in table 4. The subjects cover three main areas:

1. Scientific-humanistic (languages, mathematics, natural sciences, and social sciences).
2. Physical, artistic, technical (theory and practice in each of these in curricular and cocurricular activities).
3. Specific professional (courses specifically related to teaching in elementary school, including student teaching done in the last 2 semesters).

The same plan is followed for preparing both preschool and primary teachers, with special adaptation of the content to the needs of the level.

Higher normal schools.—Students in higher normal schools specialize in one or more of the subjects commonly taught in the basic secondary cycle and in the normal schools. For example, in the *Escuela Nacional Superior* in the Federal District, students earn the title *Profesor de Segunda Enseñanza* (Secondary School Teacher) specializing in biology, technical drawing, French, English, physics and chemistry, geography, history, mathematics, or educational psychology.

In keeping with the reforms of the basic secondary cycle that went into effect in September 1975, the Secretariat of Public Education has proposed numerous changes in the programs of higher normal schools that prepare teachers for that level. These include:

1. Recognizing that the licentiate degree constitutes the basis for teaching in the secondary school.
2. Establishing systems whereby inservice teachers can earn titles.
3. Organizing in the higher normal schools more study programs, formal and informal, by which teachers can obtain advanced degrees (master's and doctor's).
4. Establishing higher admission requirements.
5. Injecting more flexibility into study programs to facilitate adaptation to changes in secondary education.
6. Preparing teachers of physical, artistic, and technical education in special schools set up for those purposes.
7. Informing teachers of the requirements for obtaining scholarships to study at home or abroad to improve their professional preparation.[16]

These recommendations are aimed at creating a professional corps of basic secondary teachers, many of whom currently hold no title and teach only part time. The importance of such a move is self-evident as enrollment in the basic secondary schools continues its steady increase.

HIGHER EDUCATION

Higher education is offered at a variety of institutions—public and private, academic and technical, multipurpose and single-purpose, large and small, new and old. These institutions may be universities, institutes, regional technological institutes, or higher normal schools. The latter two were discussed under Vocational/Technical Education and Teacher Education, respectively.

As mentioned earlier, the Federal Education Law that went into effect in 1973 brought universities under the law as part of the national education system. Traditionally, public universities had operated under their own organic laws, either State or Federal, and as a result had considerable legal autonomy. The rationale for the change was to effect a greater degree of coordination in a system that had grown up somewhat haphazardly in the past. Even in the past, however, the Government had been able to exercise considerable control, since it prescribed the licensing procedures for various professions and furnished financial support.

The surge in university enrollment has come mainly since 1940. In that year, there were eight universities in the whole country, with about 14,000 students in all; and the largest, the National

[15]Ibid., p. 4.

[16]Secretaría de Educación Pública. *Educación Media Básica.* The Secretaría, 1974, pp. 31-35.

University, had 10,000 students. In 1973-74, university enrollment had reached over 403,000 students, and the National University had more than 126,000.[17]

The 1975 directory published by ANUIES, *Instituciones de Educación Superior*, lists 124 separate higher education institutions. Of these, 39 are in the Federal District, with smaller groups in the States of Nuevo León, Jalisco, and Veracruz. About half the total higher education enrollment is concentrated in the 39 institutions in the Capital, and of this half, most is further concentrated in two institutions: the National University and the National Polytechnical Institute. The largest higher education institutions, with their 1973-74 enrollments, were the following:[18]

National University of Mexico	126,330
National Polytechnical Institute	53,756
University of Guadalajara	21,928
Autonomous University of Nuevo León	16,109
Autonomous University of Puebla	10,969
Veracruz University	10,741

All of these are public institutions. The largest private universities have smaller enrollments:

Autonomous University of Guadalajara	9,840
Iberoamericana University	6,041
Technological and Higher Studies Institute of Monterey	5,156

Financing

The support for public universities comes mainly from Federal and State subsidies. Tuition and fees are nominal, and private and foundation contributions tend to be small. Private universities, with the exception of the Colegio de México and the Technological and Higher Studies Institute of Monterrey, which receive some Federal subsidies, are supported by tuition, often supplemented by contributions from *patronatos* (sponsors) who raise funds for the institution.

Tuition costs in 1975 varied from nominal sums in public institutions to as much as 8,100 pesos (about $648 U.S. at that time) per semester for some programs in the Technological and Higher Studies Institute of Monterrey.

A complete list of universities and their undergraduate specialties *(carreras)* is provided in a very useful 1975 publication by the ANUIES called *Catálogo de Carreras (Nivel Licenciatura)* (Catalog of Specialization [Licentiate Level]). The publication groups the specialties into 9 categories: natural sciences, mathematics, health sciences, agricultural sciences, engineering and technology, administrative and social sciences, humanities, esthetic disciplines, and other studies. It lists the names and locations of institutions offering each specialty, and provides information about prerequisites, length of study, and costs. The length of the publication—277 pages—indicates the wide range of selection offered to prospective students.

Graduate Studies and Degrees

Graduate enrollment is a very small proportion of the total postsecondary enrollment and is concentrated in a few institutions. For example, in 1973-74 the total graduate enrollment was 9,165; of these, about two-thirds were in the National University.[19] The Colegio de México (in the Capital), although small, has a prestigious graduate program. One of the most respected private universities that has attracted students from many parts of Latin America and the United States is the Technological and Higher Studies Institute of Monterrey.

Completion of specified graduate programs qualifies a student for a *maestría* (master's degree) or a *doctorado* (doctor's degree). The length of the course of study for advanced degrees varies. A master's degree usually requires at least 1 year, and a doctor's degree at least 2 years beyond the master's.

Admissions

Admission regulations vary among institutions. The basic requirement is the *bachillerato*. Additional requirements may include an entrance examination and psychological tests. Some institutions offer a *curso de iniciación universitaria* (university introductory course) as a prerequisite to regular course work.

Undergraduate Study Programs and Degrees

In Mexico, as elsewhere in Latin America, universities are institutions where students spend 4 to 6 years studying the specialty *(carrera)* of their choice. The most popular specialties as evidenced by enrollments are public accounting, medicine, law, civil engineering, business administration, economics, mechanical and electrical engineering, and architecture.

The first university degree is the *licenciado* (licentiate). Examples of titles conferred along with this degree are *arquitecto* (architect), *ingeniero civil*

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[17]Secretaría de Educación Pública, *4 Años de Labor Educativa 1970-1974*. loc. cit., p. 60.

[18]Secretaría de Educación Pública. *Informe de Labores 1 de Septiembre de 1973 a 31 de Agosto de 1974*. loc. cit., Appendix.

[19]Ibid., p. 184

(civil engineer), *químico* (chemist), and *sociólogo* (sociologist). In public institutions, a period of *servicio social* (social service), which is the practice of one's profession in the community, is a usual requirement for receiving a degree.

The Autonomous Metropolitan University

One of the most notable recent developments in higher education was the creation by the Federal Government of the new Autonomous Metropolitan University, which began operation in the Capital in 1974 with three campuses and 4,000 students. Among the many innovations of this university is the charging of fees comparable to those of private universities. A departmental structure with a modern academic and administrative design is expected to make optimum use of physical and human resources as it offers new programs in accord with national development needs. The school year is divided into trimesters, another change from standard practice. Career specialties include biomedical, engineering, social sciences, and administration. Greater flexibility is accorded the student who desires to change his specialization without loss of academic credits. It is expected that enrollments at the new Autonomous Metropolitan University will increase rapidly, relieving some of the enrollment pressures on the National University and the National Polytechnical Institute.

The Role of ANUIES

From 1960 to 1975, enrollment in higher education grew from nearly 80,000 to over 434,000, an increase of more than 400 percent. This great increase coincides with the high rate of population growth and industrialization during this period. Projections for the future based on the growth rates of the 15 to 29 age group and the increasing numbers finishing the secondary level indicate that a million or more students may be seeking places in Mexican universities by 1980.[20] The National Association of Universities and Institutes of Higher Education (ANUIES) has the task of planning and coordinating this vast expansion. In its publication *Revista de la Educación Superior* (Ap.il-June 1973), documentation is presented to show that if uninterrupted growth is permitted, the National University could have 500,000 students in 1980, and the National Polytechnical Institute 225,000. These figures have prompted the ANUIES to propose possible solutions and guidelines for the future. Some of its recommendations have already been implemented, such as the creation of the Autonomous Metropolitan University.

Other recommendations include:

1. Continue strengthening existing institutions, particularly in specialties that are in greatest demand.
2. Expand existing graduate programs and create others in other institutions in order to prepare the research and teaching specialists required for increasing enrollments.
3. Make permanent the present national and institutional programs for upgrading the qualifications of professors.
4. Establish *sistemas abiertos* (open systems) by which credits can be earned by means other than traditional formal classes.
5. Create a professional placement service to resolve the problem of underemployment and unemployment of graduates.

Financing these proposals for expanding and decentralizing higher education constitutes a formidable challenge. The demand, both current and potential, is undeniable, but higher education must compete with many other areas of need for available Government appropriations.

NONFORMAL EDUCATION

Educational opportunities outside the formal system to meet the needs of special groups include fundamental education, community development, Indian education, occupational training, and special education. As mentioned previously, open systems *(sistemas abiertos)* not tied to a formal structure allow adults who may not have had access to formal schooling to earn certificates, diplomas, titles, or academic degrees by demonstrating that they have the required knowledge and skills.

A report of the Secretariat of Public Education entitled *4 Años de Labor Educativa 1970-74* (4 Years of Educational Effort 1970-74) describes in some detail the organizations providing nonformal education. These include:

1. *Centros regionales de educación fundamental* (regional centers of fundamental education), which are federally supported boarding schools offering elementary education and occupational instruction to 12- to 15-year-old adolescents who are literate but have not completed their elementary education. (These centers are different from the nonboarding centers for fundamental education mentioned on p. 6.)
2. *Albergues escolares* (student homes), which

[20] T. Noel Osborn. *A Survey of Developments and Current Trends in Higher Education in Mexico.* 1974, p. 5.

provide food and lodging to school-age pupils who come from dispersed communities to attend schools in the localities where the *albergues* are located.

3. *Centros de alfabetización* (literacy training centers), which teach literacy and elements of general culture. From these centers, students may enter centers of fundamental education for adults where they can complete elementary education on an individual basis.
4. *El Servicio Nacional de Promotores Culturales y Maestros Bilingües* (National Service of Cultural Promoters and Bilingual Teachers), which imparts primary education to Indian children in their own language while teaching Spanish as a second language.
5. *Las brigadas de desarrollo regional* (brigades of regional development), which are mobile groups of technically trained people who attempt to improve the social, economic, and cultural life of Indian communities.
6. *Misiones culturales* (cultural missions), which are itinerant groups of 8 to 10 teachers who impart functional literacy training in both urban and rural communities.
7. *Aulas rurales móviles* (mobile rural classrooms), which operate in small communities as an itinerant service under a certified teacher, offering the first 3 grades of elementary instruction as well as literacy training for persons over 15.
8. *Salas populares de lectura* (popular reading rooms), which are centers for promoting reading as well as civic, recreational, and cultural activities in the community.

It will be noted that programs for these special groups focus on the rural areas, which have the largest concentration of Indian population, the least economic development, and the greatest educational deficits.

Some idea of the scope of certain of these activities can be obtained from the data reported for 1974. In that year, 188 cultural missions benefited 400,000 people, and the brigades of regional development, 110,000. The National Service of Cultural Promoters and Bilingual Teachers operated 2,373 schools, which served 185,022 young people and 953,438 adults.

SOME RECENT DEVELOPMENTS

In his annual report to the Mexican Congress on the state of the Nation, September 1, 1975, President Echeverría summed up the highlights of educational developments in the period from 1970 to 1975, as follows:

1. More than one-fourth of the population (16 million) is now served by the national educational system; and the total Federal budget for education has quadrupled.
2. Secondary enrollment has more than doubled, and the number of technical schools quadrupled.
3. The higher education budget has increased five-fold, as the number of students grew from 250,000 to 450,000.
4. In 1975, the Federal Government absorbed 50 percent of the cost of State universities, as opposed to 20 percent in 1971.
5. Federal resources dedicated to scientific research increased sevenfold.
6. The Indian population completing fundamental education in 1975 was 100 times the number in 1971.

The President described the vast, recent educational growth as without historical precedent and made clear that an underlying motivation was to alleviate Mexico's dependency by developing its own human resources.

The President in the same address lauded the newly published free textbooks as an important medium for creating a truly national culture; heartily endorsed the open systems of education for extending educational opportunities; called for greater coordination of higher institutions with the needs of their localities; and urged newly trained professionals to build their own futures and that of the Nation by locating away from the urban areas, where they have tended to concentrate in the past.

The strong commitment of the Government of Mexico to expand and improve the Nation's educational system is evident in the considerable achievements of recent years. If the immediate past is a guide, the quantitative expansion emphasized in the President's report will have to continue in order to overcome past deficits and keep pace with rapidly expanding enrollments at all levels. Qualitative refinements that provide alternatives and make the educational system more responsive to national and individual needs will also receive high priority. Both the quantitative and qualitative advances will necessarily depend upon the extent to which available national resources can be allocated to education in the face of competing social and economic needs at this stage of Mexico's development.

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GLOSSARY OF SELECTED EDUCATIONAL TERMS

B

Bachillerato ..... Diploma awarded upon completion of a university preparatory program of the upper secondary cycle

C

Carrera ..... Professional specialization at the university level

Curso de iniciación universitaria ..... Introductory university course, specified as an admission requirement by many institutions

D

Doctorado ..... Highest graduate degree

E

Educación extraescolar ..... Nonformal education, education that is not part of the formal structure

Educación fundamental ..... Fundamental elementary education offered to adolescents and adults

Educación media ..... Secondary education

Educación media (ciclo basico) ..... Basic (first) cycle of secondary education

Educación media (ciclo superior) ..... Upper cycle of secondary education

Educación preescolar ..... Preschool education

Educación primaria ..... Primary education, grades 1 through 6, required by the Constitution

Educadora ..... Kindergarten or preschool teacher

G

Guardería ..... Day nursery

L

Licenciado ..... Holder of the *licenciatura*

Licenciatura ..... First university degree, requiring 4 to 6 years of study

M

Maestría ..... First graduate degree beyond the *licentiatura*

Misiones culturales ..... Itinerant groups of 8 to 10 teachers who impart functional literacy training in both urban and rural communities

N

Normalista ..... Graduate of an upper secondary normal school for elementary teachers

P

Plan de estudios ..... Curriculum

Preparatoria ..... Upper cycle secondary school offering a traditional university preparatory program

Profesor ..... Title accorded elementary, secondary, and university teachers

S

Servicio social ..... Practice of a profession in the community for a specified period as part of the requirements for obtaining a degree from a public higher education institution.

Sistema abierto ..... Open system; any alternative procedure for obtaining certificates, titles, and degrees by demonstrating required knowledge and skills

T

Telesecundaria ..... Basic secondary education program taught through television (an example of an alternative in the open system)

Textos gratuitos ..... Official textbooks furnished free by the Federal Government for required use in elementary schools

U

Universidad autónoma ..... Autonomous university, usually a public corporation with academic and administrative self-government guaranteed by law

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